

GUIDELINES FOR DEVELOPING PERFORMANCE MEASURES TO SUPPORT ASSESSMENTS OF COMPETENCE UNDER STCW

Purpose: These guidelines are intended to assist working groups which are established to develop performance measures to be used in the assessment of proficiency to meet a standard of competence under the STCW Convention. The general aim is to establish a national consensus on performance measures which (a) are based on the “best practices” currently in use in the U.S. maritime industry, and (b) are not so detailed or rigid that they interfere with the professional good judgment of a qualified assessor (“designated examiner”).

Definition: A “performance measure” is understood to be an observable action, or indication of an action, that is recordable. For each performance measure, a “performance standard” (an established minimum level or boundary of performance based on relevant assessment criteria) should also be established. A sample format for presentation of performance measures and standards, for elementary first aid, is attached.

Scope of effort: These guidelines presume that a “performance measure” is only needed when a particular assessment of competence requires evaluation of the performance (i.e., “practical demonstration”) of a specific skill or related group of skills to establish an individual’s level of knowledge, understanding or proficiency (KUP) as identified in column 2 of a table in the STCW Code. Performance measures for knowledge-based testing should include a minimum passing score based on how critical the knowledge is. (For example, we may require a candidate to achieve a score of 90% on a rules of the road test but a lesser score may be acceptable for other knowledge-based proficiencies.)

It is assumed that (a) any underlying knowledge or understanding will be verified before a practical demonstration of skills takes place, and (b) the performance will be evaluated by a qualified assessor (designated examiner) who understands both the appropriate assessment methods and what constitutes proper performance of the relevant skill or related group of skills.

Procedures: The following steps should facilitate the development of performance measures for use in assessing proficiency to meet a standard of competence under STCW:

- A. Column 2 of the appropriate table in the STCW Code should be reviewed to determine which critical areas of “knowledge, understanding and proficiency” (KUP) are knowledge or performance based.
- B. Each KUP should also be reviewed to determine those that can or should be assessed on board a vessel, and those that may not be suited for shipboard assessment. In making that determination, consideration should be given to the consequences of performance

failure with respect to personal injury and loss of life, environmental damage and pollution and economic costs. Safety implications of performing shipboard assessments must be considered. Current shipboard operating conditions, such as environmental conditions, location, equipment status, workload, and personnel schedules must be considered, as should the ability to establish adequate controls over shipboard operations.

- C. Those KUP's that can be assessed from a written examination should be reflected in the performance measures for that KUP, along with an acceptable "standard" for demonstrating knowledge (e.g. – score on an examination).
- D. When developing these measures, the U.S. maritime training industry should be surveyed to identify assessment criteria or performance measures which are already in use for each of the areas of KUP identified under A. Where there are variations in the criteria or measures in use, the "best" approach should be identified, or an attempt should be made to combine the best elements from all available sources. Performance measures should be "outcome" oriented and should not be unreasonably broken down into every obvious or elementary step. Among the available resources to review are:
 - a) the STCW tables of standards of competence;
 - b) IMO Model Training Record Books;
 - c) IMO Model Courses;
 - d) ship's operating procedures;
 - e) international, national, and local regulations;
 - f) company instructions and procedures;
 - g) technical equipment and technical equipment manuals;
 - h) task analysis;
 - i) subject matter expert advice, and
 - j) existing training curriculum.
- E. For those areas where no existing assessment criteria can be identified, subject matter experts from the relevant segment of the maritime training industry should prepare a "strawman" for further consideration by all interested parties. Again, performance measures should be "outcome" oriented and should not be unreasonably broken down into every obvious or elementary step.
- F. Any draft assessment criteria or performance measure developed under this approach will be widely circulated, for example in the Federal Register, to obtain additional perspective from individuals not involved in the development process. In addition, as the measures are

“field tested” by the maritime training establishments in the U.S., adjustments will be made to the criteria or measure as needed to reflect appropriate improvements.

- G. “Final” versions of any assessment criteria or performance measure developed under this approach will be maintained electronically by the Coast Guard for use by any interested party. This “national library” of assessment criteria and performance measures will allow comments as well as additional criteria or standards to be accumulated for later review as experience is gained.
- H. When developing these measures, keep in mind the ultimate objective: If two different designated examiners used the measures to assess an individual, they should arrive at the same assessment of the individual's performance.
